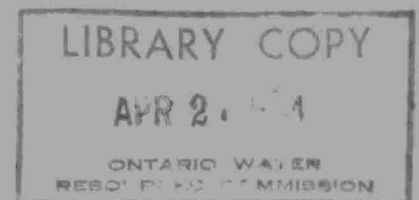




THE
ONTARIO WATER RESOURCES
COMMISSION
REPORT ON
WATER POLLUTION SURVEY
TOWNSHIP OF TECUMSETH
COUNTY OF SIMCOE

JANUARY 1964



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REPORT ON
WATER POLLUTION SURVEY
TOWNSHIP OF TECUMSETH

County of Simcoe

PREPARED BY

The Division of Sanitary Engineering
Ontario Water Resources Commission

January - 1964

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INTRODUCTION

The purpose of this survey was to assess the sanitary conditions of the watercourses traversing the Township of Tecumseth.

Surveys of this type are designed to locate any existing or potential sources of water pollution and such investigations are made upon request and routinely by the Ontario Water Resources Commission.

Recommendations are made with reference to water pollution prevention and abatement. When water and sewage works appear desirable, the Commission has a programme to aid in the construction and financing of such works.

GENERAL INFORMATION

The Township of Tecumseth, a predominantly rural municipality with a population of approximately 2,957, is situated in the south-central part of the County of Simcoe.

The township's municipal offices are located on the south side of the main street in the Village of Beeton.

Municipal water works are operated in the Villages of Beeton and Tottenham and the latter also operates a sewage treatment plant. A private water works also exists in the Community of Colgan.

The township residents, with few exceptions, obtain their water supply from private wells. Domestic sewage from the residences is generally disposed of by means of private septic tank systems.

The installations of private sewage disposal systems are inspected by the staff of the Simcoe County Health Unit, but inspections with respect to plumbing have not been inaugurated to date.

DRAINAGE

Drainage for the township lands is provided by the Nottawasaga River and its tributaries, Beeton, Innisfil, Penville, and Bailey Creeks. The south-east corner of Tecumseth is drained by the Schomberg River.

REFUSE DISPOSAL

No garbage collection service is available but two municipal sites in the township are provided for the disposal of refuse. These are briefly described as follows:

1. North Site

This is a municipal dump located on part of the south half of Lot 10, Concession 14, in the northern section of the township.

It is open to township residents on Wednesdays from 10 a.m. - 8 p.m. Garbage and refuse are dumped on the ground and partly incinerated.

Comments

This site is sufficiently isolated from a watercourse to avoid surface water pollution under the present conditions.

2. South Site

A second municipal dump is situated on the east part of the north half of Lot 13, Concession 5.

The dump is open to township residents on Mondays from 10 a.m. - 8 p.m. Garbage and refuse are dumped and partly incinerated.

This site is situated at a higher elevation and within approximately 300 feet of a intermittent watercourse. The latter is tributary to Beeton Creek.

Comments

While there was no evidence of liquid wastes draining from this disposal area at the time of the examination, it will be necessary at a later date to re-assess the location of this site with respect to potential pollution.

INDUSTRY

The industrial development in this municipality is minimal. Discussions are presented below on three waste producing plants. In only one of these establishments did a pollution problem appear to exist at the time of the ~~survey~~ survey.

1. McKenna's Slaughter-House

Slaughtering is carried on in an establishment owned by Mr. J. McKenna at a location immediately west of the Village of Tottenham.

The liquid wastes are discharged to a private septic tank system via a catch basin. The latter is designed to trap the coarser material.

Wastes containing blood had ponded and frozen on the surface of the tile bed, but there was no evidence of any run-off at the time of the examination.

Comments

There was no problem of wastes from this plant affecting a watercourse.

2. Hawton's Slaughter-House

Mr. G. Hawton operates a slaughter-house which is located at the eastern extremity of the Village of Beeton.

The liquid wastes are disposed of by means of a septic tank system. It was reported that the septic tank system freezes occasionally but otherwise functions satisfactorily.

Comments

Considering the remote location of the plant, pollution of a watercourse is unlikely.

3. J.K. Crang Farms

This plant is located on the west side of County Road No. 10 approximately 1.2 miles north of the Village of Beeton. It is engaged in the washing and packaging of whole potatoes. The period of operation is expected to extend from September to April.

The potato washings enter a sump and part of the water is re-used. The excess water discharges to a lagoon, approximately 100 feet by 60 feet by 4 feet (liquid depth). The supernatant from the lagoon discharges to Bailey Creek.

The lagoon is dredged periodically and the soil removed is spread on local farmland.

At the time of the examination, the lagoon outlet was submerged, and there was approximately 15 inches of freeboard

above the liquid level of the lagoon.

Comments

The analytical results of the final effluent are included in Table 1 of this report (NTY-59.2). The biochemical oxygen demand (16 ppm), and the suspended solids content (22 ppm) of the effluent slightly exceeded the Commission's objective of 15 ppm.

FISH KILL IN NOTTAWASAGA RIVER

In July, 1963, hundreds of dead fish were found in the Nottawasaga River immediately downstream from the town line (Highway No. 89) separating the Townships of Tecumseth and Essa.

At the time, water was being pumped from the river at a number of points by local farmers, mixed with a fungicide and D.D.T. along the river bank, and then sprayed on potato crops. One of the water intake points was in the Township of Tecumseth, upstream from where the dead fish were observed.

The investigation revealed that a toxic agent, probably D.D.T., had been discharged into the river and this evidently caused the fish kill.

Comments

In future, if spray tanks are to be filled in this manner using a toxic agent, greater precautions will have to be taken to avoid a poisonous substance or solution from entering the water.

ANALYSES OF SAMPLES

The laboratory results of bacteriological examinations and chemical analyses of samples collected from the watercourses providing drainage for the Township of Tecumseth are included in Table 1 which is appended to this report.

All of the examinations and analyses were performed at the Ontario Water Resources Commission Laboratory in Toronto.

A plan of the township showing the approximate locations of the sampling points and other pertinent information is included at the back of this report.

1. Significance of Laboratory Results

The OWRC objectives for surface water in Ontario are as follows:

5-Day Biochemical Oxygen Demand (BOD) not greater than 4 ppm.

Membrane Filter (MF) Coliform Count - not greater than 2,400 coliforms per 100 ml.

Comments

The coliform count and BOD of the samples taken on May 22, 1963, from Beeton Creek at sampling point designated NT-66.5 exceeded the Commission's objective maximum. This sampling point is downstream from the Tottenham water pollution control plant sewer outfall.

The coliform counts of three additional samples also collected from Beeton Creek on May 22, 1963, were excessive.

The sanitary chemical quality of the samples collected from Spring Creek at sampling point designated as NBS-51.1 was unsatisfactory. These samples were obtained downstream from a waste stabilization lagoon which receives waste from a large food processing industry located in the Town of Alliston. The installation of equipment to increase the efficiency of the treatment provided by the lagoon is under way, and it is expected that an improvement in the quality of the water in this stream will result.

Attention is drawn to the excessive bacterial counts in the samples collected from the Schomberg River at sampling point designated as HOS-20.6. Sources of pollution originating upstream in Schomberg are suspected of causing this bacteriological contamination.

SUMMARY

A study was made in the Township of Tecumseth in connection with a survey of pollution conditions of the local watercourses. The survey did not reveal any serious sources of pollution presently existing in the municipality. However, it is noted that a serious water pollution problem did occur in July of 1963 when a toxic chemical used for spraying potato crops gained access to the Nottawasaga River. The Commission gratefully acknowledges the assistance of Mr. D.K. Harvey, Township Clerk, for his efforts in preventing a recurrence of this type of pollution.

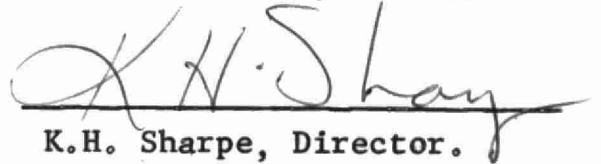
Inspections of the J.K. Crang industrial waste disposal system, which was previously mentioned in this report, will be made on a routine basis by the Commission.

All of which is respectfully submitted.

District Engineer _____

P.G. Cockburn, P. Eng.

Approved by


K.H. Sharpe, Director.

ba

Prepared by:

P.J. Walsh

Table 1-1

TWP. OF TECUMSETH

NOTTAWASAGA RIVER WATERSHED

Sampling Point No.	Location	Date Examined	Coliforms per 100 ml		5-Day BOD	<u>SOLIDS</u>			
			<u>I.N.</u>	<u>M.F.</u>		<u>Total</u>	<u>Susp.</u>	<u>Diss.</u>	<u>Turbidity</u>
N-54.4	Nottawasaga R. @ County Road No. 10 - S. of Thompsonville (Twp. of Tecumseth)	July 12/61		140	1.6	278	-	-	2.
		Oct. 16/62		900	1.6	316	-	-	2.3
		May 22/63		290	2.0	298	-	-	9.0

BEETON CREEK

NT-67.4	Beeton Cr. @ Road Allowance between Conc. 3&4 @ West Side of Tottenham Below Dam (Tottenham)	July 12/61		150	2.5	210	-	-	2.
		Oct. 16/62		340	4.4	314	-	-	17.
		May 22/63		200	3.2	286	-	-	7.0
NT-66.5	Beeton Cr. @ Road Allowance Between Conc. 4&5 (Twp. of Tecumseth)	July 12/61		290	2.3	208	-	-	3.
		Oct. 16/62		2,200	3.9	308	-	-	12
		May 22/63		540,000	4.3	326	-	-	23

Table 1-2

Sampling Point No.	Location	Date	Coliforms per 100ml		5-Day		SOLIDS		Turbidity
		Examined	I.N.	M.F.	BOD	Total	Susp.	Diss.	
NT-60.0	Beeton Cr. @ Side Road No. 10 - N. of Beeton (Twp. of Tecumseth)	July 12/61		270	2.8	246	-	-	7.
		Oct. 16/62		1,100	4.0	508	-	-	9.
		May 22/63		34,000	3.1	328	-	-	10.
<u>BAILEY CREEK</u>									
NTY-59.2 I	Lagoon outlet sewer - J.K. Crang Farms (Twp. of Tecumseth)	Jan. 16/64		52,000	16	588	22	566	
NTY-58.8	Bailey Cr. @ Side Road No. 10 N. of Beeton (Twp. of Tecumseth)	July 12/61		510	1.4	302	-	-	3.
		Oct. 16/62		144	2.4	342	-	-	5.
		May 22/63		190	4.1	394	-	-	6.5

Table 1-3

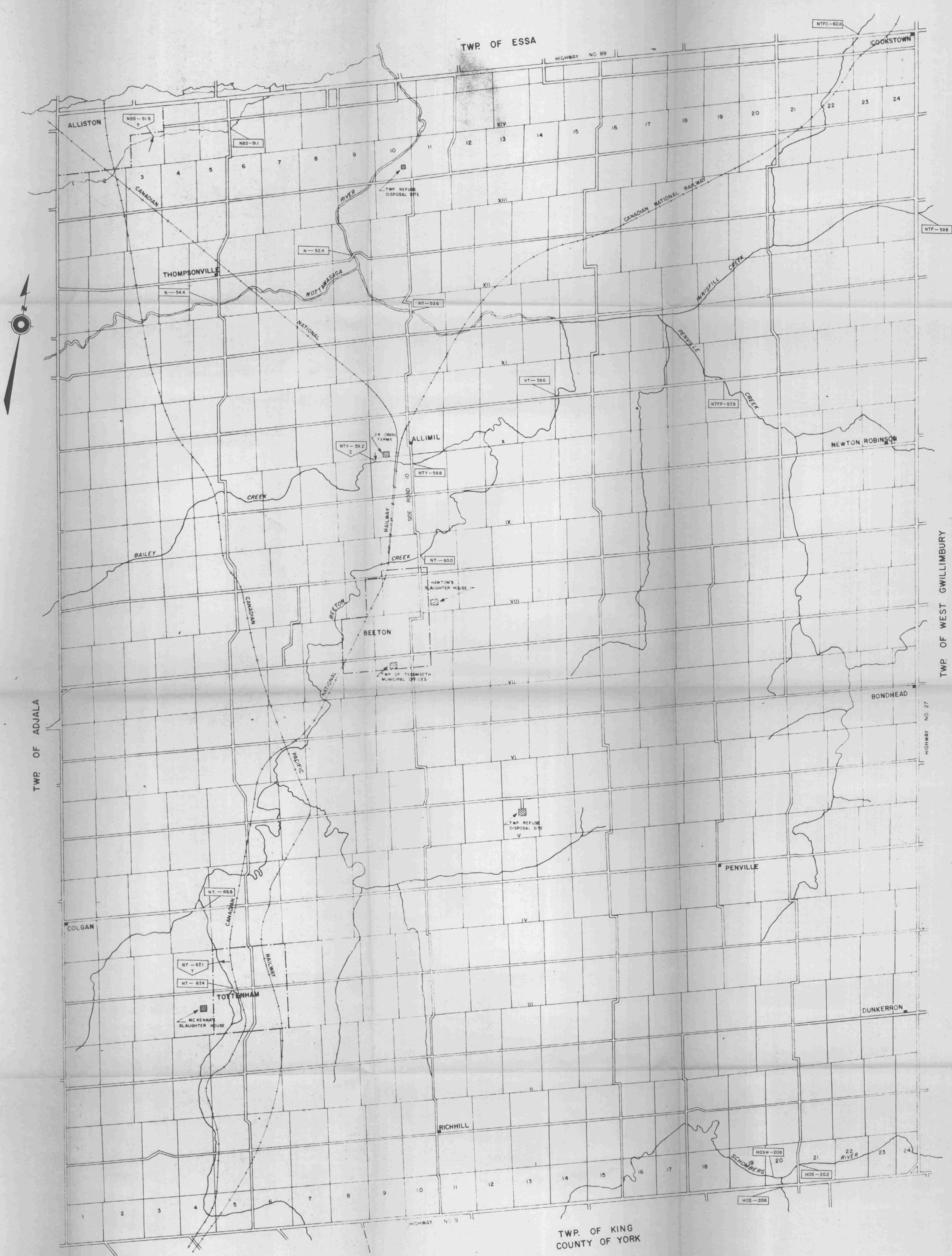
Sampling Point No.	Location	Date Examined	Coliforms per 100ml		5-Day BOD	SOLIDS			Turbidity
			I.N.	M.F.		Total	Susp.	Diss.	
<u>BEETON CREEK</u>									
NT-56.6	Beeton Cr. @ Road Allowance Between Conc. 10 & 11 (Twp. of Tecumseth)	July 12/61		40	1.5	276	-	-	5.
		Oct. 16/62		590	2.1	340	-	-	11.0
		May 22/63		9,000	2.5	398	-	-	24.0
<u>INNISFIL CREEK</u>									
NTF-59.8	Innisfil Cr. @ Hwy. No. 27 (Tecumseth/ W. Gwillimbury Town Line)	July 12/61		830	3.0	422	-	-	9.
		Oct. 16/62		740	1.9	402	-	-	11.0
		May 22/63		370	2.1	370	-	-	8.5
<u>"COOKSTOWN BRANCH"</u>									
NTFC-60.8	"Cookstown Branch" @ Hwy. No. 89 West of Cookstown (Tecumseth/ Essa Town Line)	July 12/61		500	1.8	320	-	-	4.
		Oct. 16/62		570	2.2	390	-	-	11.0
		May 22/63		600	2.3	372	-	-	2.6

Table 1-4

Sampling Point No.	Location	Date Examined	Coliforms per 100 ml		5-Day BOD	Total	SOLIDS		Turbidity
			I.N.	M.F.			Susp.	Diss.	
PENVILLE CREEK									
NTFP-57.5	Penville Cr. @ Road Allowance Between Conc. 10 & 11 (Twp. of Tecumseth)	July 12/61		680	2.2	424	-	-	5.
		Oct. 16/62		31,000	10.	744	282	462	-
		May 22/63		710	2.1	384	-	-	11.0
BEETON CREEK									
NT-53.6	Beeton Cr. @ Side Road No. 10 (Twp. of Tecumseth)	July 12/61		170	1.4	350	-	-	9.
		Oct. 26/62		27,000	2.2	356	-	-	23.
		May 22/63		4,500	2.4	406	-	-	13.0
NOTTAWASAGA RIVER									
N-52.4	Nottawasaga R. @ Road Allowance Between Conc. 12 & 13 (Twp. of Tecumseth)	July 12/61		190	1.2	316	-	-	4.
		Oct. 16/62		570	2.2	338	-	-	10.5
		May 22/63		2,900	2.1	350	-	-	11.5

TABLE 1-5

Sampling Point No.	Location	Date Examined	Coliforms per 100 ml		5-Day BOD	Total	SOLIDS Susp.	Diss.	Turbidity
			I.N.	M.F.					
SPRING CREEK									
NBS-51.1	Spring Creek @ County Rd. No. 10 1st Road Crossing Downstream From Salada Foods Ltd. (Twp. of Tecumseth)	Dec. 15/61		400	335	940	278	662	77.0
		Oct. 16/62		6,800	155	400	70	330	32
		May 22/63		15,000	6.5	372	10	362	-
HOLLAND RIVER WATERSHED									
SCHOMBERG RIVER									
HOS-20.6	Schomberg R. @ Hwy. No. 9 (Tecumseth/ King Town Line)	Sept. 6/61		8,000	2.4	342	-	-	6.
		June 14/62		43,000	3.0	320	-	-	13.5
		July 30/63		3,900	2.9	324	22	302	-
HOSW-20.6	"West Creek" Upstream from Junction with Schomberg R. (Twp. of Tecumseth)	Sept. 6/61		1,100	1.1	458	-	-	9.
		June 14/62		47,000	3.0	368	-	-	26.
		July 30/63		1,800	3.0	416	56	360	-
HOS-20.2	Schomberg R. No. of Schomberg (Twp. of Tecumseth)	Sept. 6/61		7,000	3.0	384	-	-	14.
		June 14/62		22,000	3.0	314	-	-	13.5
		July 30/63		5,000	2.6	330	21	309	-



LEGEND

- NT-565 — SAMPLING POINT SHOWING STREAM AND MILEAGE
NT-671 — STREAM AND MILEAGE AT OUTFALL
T — TYPE OF OUTFALL

OUTFALL SYMBOL LETTERS

- I — INDUSTRIAL WASTE OUTFALL
T — TREATED SEWAGE OUTFALL

ONTARIO WATER RESOURCES COMMISSION

TWP. OF TECUMSETH
WATER POLLUTION SURVEY

SCALE : 1" = 1/2 MI.

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